

### NS.txt SEQUENCE LISTING

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       HORWITZ, Arnold H.
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NS.txt
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NS.txt
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                                                       25
              15
                                                                             192
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                                                                             384
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                                                              120
            110
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                              180
                                                   185
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                                               200
                                                                    205
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                                           215
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                                                            235
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                                               280
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                                       310
                  305
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                                                       330
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                              340
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                                               360
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			ttg					ctc Leu					acg			336
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                                     -15
                                                                  -10
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                                                                                                            96
                         -1 1
        gtc act ctg gga gag tca ggt tcc atc tcc tgc cgg tct agt aag agt
Val Thr Leu Gly Glu Ser Gly Ser Ile Ser Cys Arg Ser Ser Lys Ser
                                                                                                           144
                                                20
                                                                             25
                   15
                                                                                                           192
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        Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
                                           35
        cca ggg cag tct cct cag ctg ctc atc tat cag atg tct aac aga gcc
Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Arg Ala
                                                                                                           240
                                     50
        tca ggg gtc cca gac agg ttc agt agc agt gga tct ggg aca gat ttc
                                                                                                           288
        Ser Gly Val Pro Asp Arg Phe Ser Ser Gly Ser Gly Thr Asp Phe
        act ctc aag atc agc aga gtg gag gct gaa gat gtg gga gtt tat tac
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
                                                                                                           336
                                                      85
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              110
                                          115
                                                                       120
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                                                                 135
        ctg aat aac ttc tat ccc aga gag gcc aaa gta cag tgg aag gtg gat
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        Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
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        aac gcc ctc caa tcg ggt aac tcc cag gag agt gtc aca gag cag gac
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                                                                                                           576
        agc aag gac agc acc tac agc ctc agc agc acc ctg acg ctg agc aaa
Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
                                                                                                           624
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                                                                                                           672
        gca gac tac gag aaa cac aaa gtc tac gcc tgc gaa gtc acc Cat cag
                                                      Page 19
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NS.txt
      Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
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      ggc ctg agc tcg ccc gtc aca aag agc ttc aac agg gga gag tgt tag
                                                                              720
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                                               215
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      Val Thr Leu Gly Glu Ser Gly Ser Ile Ser Cys Arg Ser Ser Lys Ser 15 20 25
              15
      Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
                               35
                                                   40
      Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Arg Ala
                           50
                                               55
      Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe
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                                           70
      Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
      Cys Ala Gln Asn Leu Glu Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys
                                   100
                                                        105
      Leu Glu Met Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
                                                   120
                              115
      Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
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                          130
      Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
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                                                            170
                  160
      Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
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                                   180
      Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
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          190
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                           210
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Met -20	Ąrg	Phe	Ser	Ala	Gln -15	Leu	Leu		.txt Leu	Leu -10	val	Leu	Trp	Ile	Pro -5	
gga	tcc Ser	act Thr	gca Ala -1	gac Asp 1	atc Ile	gtg Val	atg Met	acc Thr 5	cag Gln	tct Ser	gca Ala	ctc Leu	tcc Ser 10	aat Asn	cca Pro	96
gtc Val	act Thr	cct Pro 15	gga Gly	gag Glu	tca Ser	ggt Gly	tcc Ser 20	atc Ile	tcc Ser	tgc Cys	cgg Arg	tct Ser 25	agt Ser	aag Lys	agt Ser	144
		cat			ggc Gly		act									192
	ggg				cag Gln 50											240
tca	ggg Gly	gtc Val	cca Pro	gac Asp 65	agg Arg	ttc Phe	agt Ser	agc Ser	agt Ser 70	gga	tct Ser	ggg Gly	aca Thr	gat Asp 75	ttc	288
act Thr	ctc Leu	aag Lys	atc Ile 80	agc Ser	aga Arg	gtg Val	gag Glu	gct Ala 85	gaa Glu	gat Asp	gtg Val	gga Gly	gtt Val 90	tat Tyr	tac Tyr	336
tgt Cys	gct Ala	cag Gln 95	aac	cta Leu	gag Glu	ctt Leu	ccg Pro 100	cgg	acg Thr	ttc Phe	ggt Gly	cag Gln 105	ggc Gly	acc Thr	aag Lys	384
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ctg					ccc Pro					gta					gat	528
aac Asn	gcc Ala	ctc Leu	caa Gln 160	tcg	ggt Gly	aac Asn	tcc Ser	cag Gln 165	gag	agt Ser	gtc Val	aca Thr	gag Glu 170	cag	gac Asp	576
			agc		tac Tyr			agc								624
gca Ala	gac Asp 190	tac	gag Glu	aaa Lys	cac His	aaa Lys 195	gtc	tac Tyr	gcc Ala	tgc Cys	gaa Glu 200	gtc Val	acc Thr	cat His	cag Gln	672
	ctg				gtc Val 210	Thr									tag	720
37 239 PRT Home	o sap	oiens	5													
37 Mot	A ===	Dho	C 0 m	۸٦.	cl.	Lou	Lau	<b>6</b> 1.7	Lou	Lou	V2.1	Lou	Tnn	Tla	Dro	
-20	_				Gln -15 Ile					-10	_				- 5	
٧a٦	Thr	Pro	-1 Gly	1 Glu	Ser	Gly	ser	5 Ile	Ser	Cys	Arq	Ser	10 Ser	Lys	Ser	
		15			Gly		20			-	_	25		_		
	30				Gln	35		-			40				_	
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                                     100
      Leu Glu Met Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
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                                                       120
      Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
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      Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
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      Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
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                                                                                   96
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      gtc act ctg gga gag ccg ggt tcc atc tcc tgc cgg tct agt aag agt
                                                                                  144
      Val Thr Leu Gly Glu Pro Gly Ser Ile Ser Cys Arg Ser Ser Lys Ser
                                     20
                                                           25
               15
                                                                                  192
      ctc cta cat agt aat ggc atc act tat ttg tat tgg tat ctg cag aaa
      Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
                                                       40
                                                                                  240
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      Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Arg Ala
      45
                            50
                                                  55
                                                                                  288
      tca ggg gtc cca gac agg ttc agt agc agt gga tct ggg aca gat ttc
      Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe
                                                                                  336
      act ctc aag atc agc aga gtg gag gct gaa gat gtg gga gtt tat tac
      Thr Leu Lys Ile Ser Arg Val Glū Āla Glu Āsp Val Gly Val Tyr Tyr
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Cys Ala Gln Asn Leu Glu Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys
                                                                                  384
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      Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
      125
                                                 135
                           130
                                                                                528
      ctg aat aac ttc tat ccc aga gag gcc aaa gta cag tgg aag gtg gat
      Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
                                                                  Val Asp
                                             150
                                                                  155
                                                                                576
      aac gcc ctc caa tcg ggt aac tcc cag gag agt gtc aca gag cag gac
      Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
                                        165
                                                                                624
      agc aag gac agc acc tac agc ctc agc agc acc ctg acg ctg agc aaa
      Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
              175
                                    180
                                                         185
      gca gac tac gag aaa cac aaa gtc tac gcc tgc gaa gtc acc cat cag
Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
                                                                                672
                                195
                                                     200
          190
                                                                                720
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      Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
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                                35
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      Cys Ala Gln Asn Leu Glu Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys
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                                    100
                                                         105
      Leu Glu Met Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
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                                                     120
      Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
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                                                 135
                                                                      140
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                                                             170
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                                        165
      Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
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                                    180
      Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
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                                                                                                    48
                                                           -10
        -20
                                  -15
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        Gly Ser Thr Ala Asp Ile Val Met Thr Gln Ser Pro Leu Ser Asn Pro
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                                                                                                  144
        Val Thr Pro Gly Glu Ser Gly Ser Ile Ser Cys Arg Ser Ser Lys Ser
                  15
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Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
                                                                                                  192
       cca ggg cag tct cct cag ctg ctc atc tat cag atg tct aac aga gcc
                                                                                                  240
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                                                            55
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                                  50
       tca ggg gtc cca gac agg ttc agt agc agt gga tct ggg aca gat ttc
Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe
                                                                                                  288
                            65
                                                      70
       act ctc aag atc agc aga gtg gag gct gaa gat gtg gga gtt tat tac
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
                                                                                                  336
                                                 85
                       80
                                                                                                  384
       tgt gct cag aac cta gag ctt ccg cgg acg ttc ggt cag ggc acc aag
       Cys Ala Gln Asn Leu Glu Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys
                  95
                                            100
                                                                      105
       ctt gag atg aaa cga act gtg gct gca cca tct gtc ttc atc ttc ccg
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                                                                                                  432
                                       115
                                                                                                  480
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       Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
                                  130
                                                            135
                                                                                                  528
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Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
                                                      150
                            145
                                                                                 155
       aac gcc ctc caa tcg ggt aac tcc cag gag agt gtc aca gag cag gac
Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
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                                                                           170
                       160
                                                 165
                                                                                                  624
        agc aag gac agc acc tac agc ctc agc agc acc ctg acg ctg agc aaa
       Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
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                                            180
                                                                      185
                                                                                                  672
       gca gac tac gag aaa cac aaa gtc tac gcc tgc gaa gtc acc cat cag
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                                   20
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                               35
      Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Arg Ala
                           50
      Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe
65 70 75
                      65
      Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
      Cys Ala Gln Asn Leu Glu Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys
                                   100
                                                        105
      Leu Glu Met Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
                               115
                                                    120
      Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
      125
                                               135
                           130
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145 150 155
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                                       165
      Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
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      Val Thr Leu Ğİy Ğlu Pro Ğİy Ser Ile Ser Cys Arg Ser Ser Lys Ser
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                                                                                            624
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                                                             120
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135

130

Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp

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Ns.txt
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                               -15
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       Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
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Cys Ala Gln Asn Leu Glu Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys
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       Leu Glu Met Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
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NS.txt
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                                                         105
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                           130
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                                                 25
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                  35
                                            40
                                                                                                   192
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Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly Ser Lys Leu Gly Arg
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                            85
                                                       90
                                                                                                   336
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Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly
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                                                 105
       acc tcc acg tgc tgg tgt gtg aac act gct ggg gtc aga aga aca gac
Thr Ser Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp
                                                                                                   384
                                            120
                                                                       125
                  115
       aag gac act gaa ata acc tgc tct gag cga gtg aga acc tac tgg atc
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       Lyš Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile
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                                                                                                   528
                                                       170
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                                                 185
                                                                            190
                                                  Page 30
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       10
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                                                                                                      192
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                                                                                                      336
                                        80
                                                                   85
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                                                                                                      480
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                                  175
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                        205
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Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala
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                                        240
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Thr Ser Gly Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser 20 25 30
Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Ser 35 40 45
Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile
70 75 80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
                                        Page 34
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Leu Glu Leu Pro Arg Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  $100 \hspace{1cm} 105 \hspace{1cm} 110$ 

<210> 61 <211> 116

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<223> Variable Region for Mouse-Human Chimeric ING-1 Heavy Chain

<400> 61

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr 20 25 30

Gly Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Glu Glu Pro Thr Tyr Gly Asp Asp Phe 50 60

Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser Thr Ala Asn 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Ser Glu Asp Thr Ala Thr Tyr Phe Cys 85 90 95

Ala Arg Phe Gly Ser Ala Val Asp Tyr Trp Gly Gln Gly Thr Ser Val 100 105 110

Thr Val Ser Ser 115